

## INTRODUCTION



Severe illness and accidents involving livestock may occur at any time. Some require the animal to be humanely destroyed. Examples include road accidents, injuries in transit, mechanical injuries, illness on the farm, and injuries occurring during natural or man-made disasters (flood/fires).

It is always best to seek assistance from a veterinarian when considering euthanasia. However, in some circumstances a veterinarian may not be readily available to assist in the evaluation and euthanasia of an animal. The aim of emergency euthanasia is to provide a quick and humane death to prevent or minimize suffering.

Emergency euthanasia should be performed when an unacceptable delay in treating the animal would perpetuate or significantly aggravate the condition. Deciding who will be responsible for making decisions about euthanasia should be made well in advance of a crisis so that individuals can be properly trained. If you are in doubt about whether euthanasia is necessary, you should contact a licensed veterinarian.

The 2000 Report of the American Veterinary Medical Association Panel on Euthanasia classifies **penetrating** captive bolt and barbiturate (injectable) euthanasia of ruminants as **acceptable**, and gunshot and electrocution as **conditionally acceptable**. Only veterinarians have access to barbiturates.

**Penetrating** captive bolt and gunshot are the two best options available to non-veterinarians for emergency euthanasia. Regardless of the method chosen, human and animal safety, logistics and verification of death are critical.

### Some indications that emergency euthanasia may be necessary:

- ↓ *violent or self-destructive thrashing (is the animal a hazard to itself or others?)*
- ↓ *severe shock (animal non-responsive to stimuli)*
- ↓ *exposed abdominal contents/organs*
- ↓ *open fracture of a long bone (leg bone below the shoulder or hip)*
- ↓ *animals with chronic and/or incurable conditions*

## EUTHANASIA BY GUNSHOT

This should only be attempted by individuals well trained in firearm use and safety, and an understanding of ricochet potential. Care must be taken to minimize danger to the operator, other people, and/or other animals.

Advantages of a firearm are that it leads to instantaneous death, is inexpensive, and does not require physical contact with the animal.

Death is due to direct destruction of the brain, inducing immediate unconsciousness, and permanent destruction of the cardiac and respiratory centers of the brain. **Death should be confirmed within 5 minutes.**

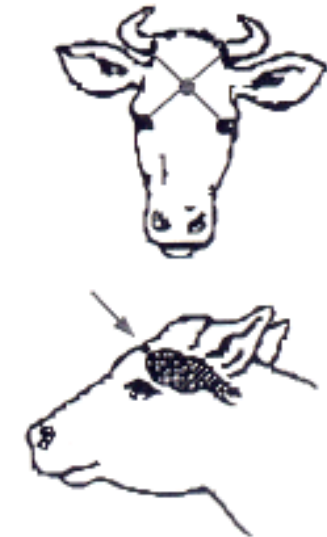
***Many cities have laws prohibiting the discharge of a firearm within city limits. You need to be aware of local laws and ordinances.***

### Firearm:

A .22 caliber long rifle bullet is sufficient for most cattle. At least a .22 magnum or 9 mm round should be used on bulls. If in doubt, the use of a larger caliber firearm is recommended. The weapon muzzle should be held perpendicular and 2-10 inches from the intended point of impact.

### Ammunition:

The use of a hollow-point or soft-nose bullet is recommended to increase tissue destruction and decrease the risk of the bullet passing through the skull (ricochet).



### Placement and Aim:

The bullet's entry site should be at the intersection of two imaginary lines drawn from the inside corner of the eye to a point at the top of the opposite ear (or base of the opposite horn). This point is exactly on midline. Bullet entry should be perpendicular (90°) to the skull and aimed down the neck of the animal.

## EUTHANASIA BY CAPTIVE BOLT

As with a gunshot, the **penetrating** captive bolt kills by physical destruction of the brain. Only a **penetrating** captive bolt gun (not a concussive, or non-penetrating captive bolt gun) should be used for euthanasia. Use of a **penetrating** captive bolt gun eliminates the potential for ricochet.

Placement and aim are the same as for a gunshot, except that the captive bolt gun must be firmly placed perpendicular against the animal's head at the point of impact. **Death should be confirmed within 5 minutes.**

The cartridge strength must be appropriate for the size of the animal; these vary among manufacturers and it is important to follow the manufacturers' recommendations. Routine cleaning and maintenance is needed to ensure maximum power. Inadequate gun care can lead to poor performance, requiring more than one shot to kill the animal.

Care and caution should be used when handling a captive bolt gun to ensure human and animal safety.

For information and ordering of a **penetrating** captive bolt gun for emergency euthanasia contact the following manufacturers: Koch Supplies (800) 456-5624, Hantover (800) 821-2227 and Packers Engineering Equipment Co. (800) 279-7326.

## LOGISTICS

When practical, choose a location where the carcass can be easily reached by removal equipment. Remember, livestock should be handled so that no unnecessary pain or suffering occurs prior to euthanasia.

## CONFIRMATION OF DEATH

Immediately following the shot, the animal should collapse and may experience a period of intense muscle contraction (usually no longer than 20 seconds) followed by a period of relaxation and some poorly coordinated kicking or paddling movements. Absence of rhythmic breathing, heartbeat, and corneal reflex (a blink) confirms death.

To confirm death, touch the cornea to ensure there is no corneal reflex. Any eye movement or blinking indicates brain activity and should be dealt with by a repeat shot. Evaluate the placement and aim of your initial shot and adjust as necessary.



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**Animal Health and  
Food Safety Services**

# Emergency Euthanasia of Cattle

## Guidelines for Producers



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